

REMARKS

The above amendments and these remarks are responsive to the Office Action issued on July 11, 2005. By this response, claims 19 and 20 are newly presented. No new matter is added. Claims 1-20 are now active for examination.

The Office Action

The Office Action dated July 11, 2005 rejected claims 1-2, 13 and 16-18 under 35 U.S.C. §102(a) as being anticipated by Kojima et al. (U.S. Patent No. 6,542,793 B2). Claim 3 was rejected under 35 U.S.C. §103(a) as unpatentable over Kojima in view of Kai (U.S. Patent No. 6,226,571 B1). Claims 4-12 and 14-15 were objected to for depending on a rejected base claim.

Applicant submits that the rejection is overcome and the objection is addressed in view of the claim amendment and/or remarks presented herein.

The Anticipation Rejection Is Overcome

Claims 1-2, 13 and 16-18 were rejected as being anticipated by Kojima et al. It is respectfully submitted that the anticipation rejection is overcome because Kojima cannot support a prima facie case of anticipation.

Claim 1 describes a driving assist system for a vehicle, comprising a risk potential calculation device that calculates a risk potential present around the vehicle based upon a detection of a state of the vehicle and a traveling environment of the vehicle, and a reaction force adjustment device that adjusts reaction force characteristics of a vehicle operating device, such as a driving wheel or accelerator pedal, based upon the calculated risk potential. An external influence detection device is provided to detect an external influence which will affect an

operation of the vehicle operating device by a driver. The reaction force characteristics of the vehicle operating device are adjusted based upon detection results obtained by the external influence detection device.

In contrast, Kojima describes a cruise control mode that applies either a strong reaction force to a brake pedal when the driver intends automatic driving (the brake pedal now acts like a footrest), or very little reaction force when the driver intends to operate the vehicle (such as stopping). A control means 3 is provided to "guess" a driver's intention based on vehicle operation status or environment information, such as speed, vehicle-to-vehicle distance, yaw rate, etc., as well as a cruise control switch.

However, Kojima does not adjust a reaction force based on a calculated risk presented around the vehicle, as described in claim 1. According to the characterization of the Office Action, Figure 25 of Kojima purportedly discloses a risk potential calculation device 38 to calculate "a risk potential" based on input signals from "speed setting switch." Nevertheless, according to the specification of Kojima, controller 38 is used to control the operation of a vehicle, such as the engine, transmission, braking, acceleration, etc., based on vehicle operation data like speed, relative distance between vehicles, etc. (see col. 15, lns. 38-59 of Kojima). In other words, controller 38 is similar to an automatic driving system that takes over the driving from a driver. Although Kojima's system might consider certain factors (such as relative speed or distance, which may be arguably comparable to "risk potential") in performing the automatic driving, these factors are not used to adjust the reaction force applied to the brake pedal. Rather, Kojima's system increases the reaction force based on a setting of a "footrest button" of the running-mode setting switch 39 (see col. 15, lns. 59-66). This setting, however, has nothing to do with a calculated risk potential. Therefore, Kojima does not disclose "a reaction force

adjustment device that adjusts reaction force characteristics of a vehicle operating device based upon the risk potential,” as described in claim 1.

Furthermore, the sensor devices shown in Figure 25 only provide information for automotive driving or cruise control. Kojima does **not** further correct the reaction force that is already adjusted by the reaction force adjustment device based upon the risk potential. Thus, Kojima does not teach “an external influence detection device that detects an external influence which will affect an operation of the vehicle operating device by a driver; and a reaction force correction device that corrects the reaction force characteristics of the vehicle operating device adjusted by the reaction force adjustment device, based upon detection results obtained by the external influence detection device,” as described in claim 1.

Since Kojima fails to disclose every limitation of claim 1, Kojima cannot support a prima facie case of anticipation. The anticipation rejection is untenable and should be withdrawn. Favorable reconsideration of claim 1 is respectfully requested.

Claim 2 depends on claim 1 and incorporates every limitation thereof. Accordingly, claim 2 is also patentable over Kojima by virtue of its dependency from claim 1.

Claims 16-18 include descriptions substantially similar to those of claim 1. Thus, Claims 16-18 also are patentable over Kojima for at least the same reasons as for Kojima, as well as based on their own merits. Favorable reconsideration of claims 16-18 is respectfully requested.

The Obviousness Rejection Is Overcome

Claim 3 depends on claim 1 and was rejected as unpatentable over Kojima in view of Kai. The obviousness rejection is respectfully traversed because Kojima and Kai cannot support a prima facie case of obviousness.

As discussed earlier, Kojima does not teach “a reaction force adjustment device that adjusts reaction force characteristics of a vehicle operating device based upon the risk potential,...an external influence detection device that detects an external influence which will affect an operation of the vehicle operating device by a driver; and a reaction force correction device that corrects the reaction force characteristics of the vehicle operating device adjusted by the reaction force adjustment device, based upon detection results obtained by the external influence detection device,” as described in claim 1.

The other publication, Kai, does not alleviate the deficiencies of Kojima. Kai relates to a system for detecting objects surrounding an automotive vehicle. A control processing unit 7 is provided for controlling a throttle valve actuator 3 and a brake actuator 4 based on information from a radar signal processing unit 2, sensors 5 and switches 6. However, like Kojima, Kai never calculates risk potential from the environment using acquired data, and adjusts a reaction force based on the calculated risk potential. Furthermore, like Kojima, Kai fails to disclose “an external influence detection device that detects an external influence which will affect an operation of the vehicle operating device by a driver; and a reaction force correction device that corrects the reaction force characteristics of the vehicle operating device adjusted by the reaction force adjustment device, based upon detection results obtained by the external influence detection device,” as described in claim 1.

Thus, Kojima and Kai, even if combined, do not disclose every limitation of claim 3, which incorporates every limitation of claim 1. The obviousness rejection based on Kojima and Kai is untenable and should be withdrawn. Favorable reconsideration of claim 3 is respectfully requested.

The Objection to Claims 4-12 and 14-15 Is Addressed

Claims 4-12, 14 and 15, directly or indirectly, depend on claim 1 and were objected to for depending on a rejected base claim. However, the Examiner indicated that the claims would be allowable if they are written into independent form including every limitation of the base claim and any intervening claims.

As discussed earlier, claim 1 is patentable. Accordingly, claims 4-12, 14 and 15 are in appropriate form.

New Claims 19 and 20 Are Patentable

New claims 19 and 20 depend on claims 1 and 18, respectively, and further describe that the reaction force correction device corrects the reaction force characteristics differently based on different levels of a running resistance estimating a state of a pedal operation by the driver of the vehicle. Appropriate support for the new claims can be found in, for instance, Figures 4B-4D and Figure 5, and related descriptions in the written description.

As discussed earlier, claims 1 and 18 are patentable over the documents made of record. Furthermore, it is believed that the documents of record, either in combination or alone, disclose that “the reaction force correction device corrects the reaction force characteristics differently based on different levels of a running resistance estimating a state of a pedal operation by the driver of the vehicle,” as described in claims 19 and 20. Accordingly, claims 19 and 20 also are patentable by virtue of their dependencies as well as based on their own merits. Favorable consideration of claims 19 and 20 is respectfully requested.

Request for Acknowledgement of Prior Art

The Office Action attached various PTO-1449 forms with Examiner's initials confirming considerations of publications that were previously submitted by Applicant. However, it was noted that the Examiner's initial was not provided by one listed publication, U.S. Published Patent Application No. 2001/0003810 A1. A copy of the PTO-1449 form showing the document without proper initial is attached hereto.

It is respectfully requested that consideration of U.S. Published Patent Application No. 2001/0003810 A1 be specifically acknowledged, and an appropriately initialed PTO-1449 form be furnished.

CONCLUSION

For the reasons given above, Applicant believes that this application is in condition for allowance, and request that the Examiner give the application favorable reconsideration and permit it to issue as a patent. If the Examiner believes that the application can be put in even better condition for allowance, the Examiner is invited to contact Applicant's representatives listed below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to **Deposit Account 500417** and please credit any excess fees to such deposit account.

Respectfully submitted,

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